



566.43176X00

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: M. KITAMURA, et al

Serial No.: 10/673,195

Filed: September 30, 2003

For: COMPUTER SYSTEM

**PETITION TO MAKE SPECIAL
UNDER 37 CFR §1.102(MPEP §708.02)**

MS Petition

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

March 11, 2005

Sir:

Applicants hereby petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). Pursuant to MPEP §708.02(VIII), Applicants state the following.

(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

(B) All claims are directed to a single invention.

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status.

(C) A pre-examination search has been conducted.

The search was directed towards a storage system. In particular, the search was directed towards a computer system including a plurality of computers, first and second servers connected to the computers and a storage system connected to the first and second servers, the first and second servers individually, and a backup method for performing backup in the computer system.

According to the present invention, the storage system includes a plurality of storage devices and a storage controller which controls the storage devices.

The first server includes a first memory which stores a first program and a first CPU which executes the first program, and the second server includes a second memory which stores a second program and a second CPU which executes the second program. The second program includes a part for making a request to the first server for information necessary for the second server to backup a file as a back object instead of the first server and the first program includes a part which responds to the request by sending the second server an identifier of a second storage device that stores duplicate data of the file. The second program further includes a part which obtains backup data from the second storage device based on the identifier.

The backup method provides that the second server makes a request to the first server for information necessary for the second server to backup the file as a backup object instead of the first server, and the first server sends an identifier of a second storage device that stores duplicate data of the file in

response to the request and the second server obtains backup data from the second storage device based on the identifier.

The search of the above features was conducted in the following areas:
Class 707, subclass 204; Class 709, subclass 219; Class 711, subclasses 161, 162; and Class 714, subclass 6.

Additionally, a computer database search was conducted on the USPTO systems EAST and WEST.

(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:

<u>U.S. Patent No.</u>	<u>Inventors</u>
6,000,020	Chin et al
6,260,069	Anglin
6,604,118	Kleiman et al
6,611,923	Mutalik et al

<u>U.S. Patent Application Publication No.</u>	<u>Inventor(s)</u>
2003/0212870	Nowakowski
2004/0073677	Honma et al
2004/0167972	Demmon

A copy of each of these references (as well as other references uncovered during the search) is enclosed in an accompanying IDS.

(E) It is submitted that the present invention is patentable over the references for the following reasons.

It is submitted that the cited references, whether considered alone or in combination, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest a first feature of the present invention wherein the second server makes a request to the first server for information necessary for the second server to backup a file as a backup object instead of the first server, the first server sends an identifier of a second storage device that stores duplicate data of the file, in response to the request and the second server obtains backup data from the second storage device based on the identifier; and a second feature of the present invention wherein the first server inhibits write into a file as a backup object, in response to a request information necessary for the second server to backup the file instead of the first server with a request being made by the second server, writes data that has not been written yet into the first storage device to store the file into the first storage device, generates duplicate data of the file, and sends the second server an identifier of a second storage device that stores the duplicate data.

Each of the independent claims recite at least one of the above described first and second features of the present invention. In particularly, independent claims 1, 10 and 14 recite at least the first feature and independent claim 7 recites the second feature.

The references considered most closely related to the claimed invention are briefly discussed below:

Chin (U.S. Patent No. 6,000,020) shows a system for data storage management and transparent data backup. The system includes a transaction server and a first storage system on a main loop, and a second storage system and a backup/HSM server on a second loop. The second loop is connected to the main loop by a bridge so that whenever the transaction server makes a write transaction to the first storage system, the transaction is mirrored across the bridge to the second storage system. The backup/HSM server is free to carry out storage management and backup duties whenever the transaction server is not using the second loop. Typical backup/HSM transactions include moving data that has not been used for a predetermined period of time, or that is older than a predetermined age to archival storage. This is done by reading data from the mirrored storage drives and then performing write transactions to a CD WORM drive or a tape drive. (See, e.g., Abstract, column 2, line 53, through column 3, line 32, column 5, line 63, through column 9, line 48).

Thus, Chin does not teach or suggest the present invention in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Anglin (U.S. Patent No. 6,260,069) shows a system for backing up files in a distributed file system. A backup request is initiated by a backup client program to backup a requested file. The file server maintains the files in a shared name

space, and the backup request is transmitted to the file server upon determining that the requested file is maintained in the shared name space. The backup server transmits a message to the file server to provide the requested file. The file server transmits the requested file to the backup server, and the backup server stores the requested file in a storage device. (See, e.g., Abstract, column 2, lines 27-60, and column 3, line 18, through column 6, line 54). However, Anglin does not teach a second server obtaining backup data from a second storage device that stores duplicate data of a file.

Accordingly, Anglin does not teach or suggest the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Kleiman (U.S. Patent No. 6,041,118) shows a method and system for duplicating all or part of a file system while maintaining consistent copies of the file system. The file server maintains a set of snapshots, each indicating a set of storage blocks making up a consistent copy of the file system as it was at a known time. The snapshot can be used for duplicating or transferring a backup copy of the file system to a destination storage medium. The snapshots may be manipulated to identify sets of storage blocks in the file system for incremental backup or copying. However, as used in Kleiman, a "snapshot" refers to a set of

storage blocks disposed using a data structure. The data structure for the snapshot is a file system object, such as a blockmap, wherein the blockmap includes a bit plane having one bit for each storage block, other than the bits used to identify if the storage block is in the active file system. (See, e.g., Abstract, column 1, lines 49-61, column 2, lines 40-59, and column 4, lines 20-67).

Thus, Kleiman also does not teach or suggest a second server that obtains backup data from a second storage device that stores duplicate data of a file. Accordingly, Kleiman does not teach or suggest the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Mutalik (U.S. Patent No. 6,611,923) shows a system and method for backing up data stored in multiple mirrors on a mass storage subsystem under control of a backup server. The system includes a storage subsystem, a backup server, and a host, which is the backup client. The backup server includes a discovery module that receives the backup request and identifies at least one storage location on the storage subsystem where data to be backed up is stored. During a preparation phase, the storage subsystem severs a mirrored copy and makes it available to the backup server for the backup operation. The storage

subsystem retrieves data from the storage location and transfers the data to the backup server. The storage subsystem may then resynchronize the mirrored copies. (See, e.g., Abstract, FIGS. 1-3, column 2, line 48, through column 3, line 34, and column 5, line 20, through column 6, line 37).

Thus, in Mutalik, the storage subsystem retrieves the data and transfers the data to the backup server, whereas in the present invention, a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. Accordingly, Mutalik does not teach the present invention.

Nowakowski (U.S. Patent Application Publication No. 2003/0212870) shows a method and apparatus for mirroring data stored in a mass storage system by copying data stored in a first storage device to a second storage device. The second storage device can be used for facilitating backing up of the data, since it is known that the first storage device and the second storage device are synchronized and contain identical data from which a backup may be generated. (See, e.g., Abstract, FIGS. 1-2, paragraphs [0010], [0016]-[0021], and [0029]). However, Nowakowski only teaches a single server in communication with a storage device.

Thus, Nowakowski does not teach the present invention, in which a second server makes a request to a first server for information necessary for the

second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Honma (U.S. Patent Application Publication No. 2004/0073677) shows a computer system that includes a non-disruptive backup feature. By using a series of internal functions in storages, copying from primary volumes to be backed up to secondary volumes is executed to make a copy of the primary volumes. The primary and secondary volumes created with the mirroring software are mirror split according to an instruction from a collaborating tool (software) in the application server, and while backup is performed by using one volume (the secondary volume), jobs are enabled to continue by using the other volume (the primary volume). Then, after the backup process terminates, resynchronization of the mirrored volumes is performed. The backup copying of data in the secondary volume is made to a backup device such as a tape unit connected with the backup server by use of the collaborating tool in the backup server. (See, e.g., Abstract, FIGS. 4-8, paragraphs [0011], [0012], and [0047]-[0055]).

Thus, Honma does not teach a second server that requests an information from a first server regarding information for backup. Accordingly, Honma does not teach the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate

data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Demmon (U.S. Application Publication No. 2004/0167972) shows an apparatus and method for providing dynamic and automated assignment of data logical unit numbers (LUNs) used with an interface on a management server to control a data backup process in a storage area network (SAN). Data backup is accomplished by creating a snapshot LUN that represents an exact copy of an existing LUN at a given point in time, wherein the snapshot LUN is assigned a unique identifier. The unique identifier is passed to a backup server, and if the backup server can access the snapshot LUN, then the backup is executed. However, if the backup server cannot access the snapshot LUN based on the unique identifier, the snapshot LUN IS assigned to the backup server by the management server. The backup server can then backup the data represented by the LUN. (See, e.g., Abstract, paragraphs [0007]-[0008] and [0018]-[0023]). However, Demmon teaches a dedicated backup server that uses backup software to create the snapshot LUN, rather than having the location of an existing duplicate file communicated to it by another server.

Thus, Demmon does not teach a system in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier.

Therefore, since the references fail to teach or suggest the above described first and second features of the present invention, it is submitted that all of the claims are patentable over the cited references.

(F) Conclusion

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

(G) Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.

☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.,
Deposit Account No. 50-1417 (566.43176X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

By 

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PETITION FEE Under 37 CFR 1.17(f), (g) & (h) TRANSMITTAL (Fees are subject to annual revision) Send completed form to: Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450	Application Number	10/673,195
	Filing Date	September 30, 2003
	First Named Inventor	M. KITAMURA, et al
	Art Unit	
	Examiner Name	
	Attorney Docket Number	566.43176X00

Enclosed is a petition filed under 37 CFR §1.102(d) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees))

- ☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 50-1417:
- ☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments
- Enclose a duplicative copy of this form for fee processing.

☐ Check in the amount of \$ _____ is enclosed.

☒ Payment by credit card (From PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

Petition Fees under 37 CFR 1.17(f):

Fee \$400

Fee Code 1462

For petitions filed under:

- § 1.53(e) - to accord a filing date.
- § 1.57(a) - to according a filing date.
- § 1.182 - for decision on a question not specifically provided for.
- § 1.183 - to suspend the rules.
- § 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
- § 1.741(b) - to accord a filing date to an application under §1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g):

Fee \$200

Fee code 1463

For petitions filed under:

- §1.12 - for access to an assignment record.
- §1.14 - for access to an application.
- §1.47 - for filing by other than all the inventors or a person not the inventor.
- §1.59 - for expungement of information.
- §1.103(a) - to suspend action in an application.
- §1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
- §1.295 - for review of refusal to publish a statutory invention registration.
- §1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
- §1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
- §1.550(c) - for patent owner requests for extension of time in ex parte reexamination proceedings.
- §1.956 - for patent owner requests for extension of time in inter partes reexamination proceedings.
- § 5.12 - for expedited handling of a foreign filing license.
- § 5.15 - for changing the scope of a license.
- § 5.25 - for retroactive license.


Petition Fees under 37 CFR 1.17(h):

Fee \$130

Fee Code 1464

For petitions filed under:

- §1.19(g) - to request documents in a form other than that provided in this part.
- §1.84 - for accepting color drawings or photographs.
- §1.91 - for entry of a model or exhibit.
- §1.102(d) - to make an application special.
- §1.138(c) - to expressly abandon an application to avoid publication.
- §1.313 - to withdraw an application from issue.
- §1.314 - to defer issuance of a patent.

Name (Print/Type)	Carl I. Brundidge	Registration No. (Attorney/Agent)	29,621
Signature		Date	March 11, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.